MODIS Technical Team Meeting
December 13, 2001
Building 33, Room E125
3:00 P.M.

Vince Salomonson chaired the meeting. Present were Barbara Conboy, Gary Alcott, Skip Reber, Bill Barnes, Joy Henegar, Jim O'Neal, Bob Murphy, Eric Vermote, Mark Domen, Wayne Esaias, Jack Xiong, Ed Masuoka, and Chris Justice, with Rebecca Lindsey talking the minutes.

1.0 Upcoming Meetings

- MODIS Science Team Meeting — December 17-19, 2001
  BWI Marriott
- Terra Data Review at NASA HQ — January 7 and 8, 2002

2.0 Meeting minutes

2.1 Instrument Update

Domen reported that the FM-1 MODIS cards that were modified to prevent resets have been fixed and reinstalled; both A-side and B-side formatter and command processor cards were fixed. This should eliminate resets. TRW is 10 days behind a launch date of March 24. There is still one problem with spacecraft electronics, but there is a workaround that will accommodate the current schedule.

Barnes reported that FOT had completed the first inclination adjustment burn. This required closing the MODISNAD (Nadir Aperture Door). This produced a two-hour data loss. The only problem was that the "open" indicator switch didn't trip after the door was completely open. When it came time to close the door, they had to make some changes to the software. There are five more burns, and the question is whether to close the door each time. We aren't sure why it was suggested that we close the door: possibly to avoid contaminating the scan mirror. We will discuss the issue with project and SBRS personnel. In the future we may leave the door open. We are the only instrument that closed its door during the burn.

Domen said Roger Drake called and reminded him that we don't have the contract with Santa Barbara Remote Sensing to do any kind of additional work on PFM, so the amount of support from Santa Barbara Remote Sensing to examine the door switch problem will be minimal. Barnes said MCST might be able to provide funding.

2.2 Status of near-real time processing and delivery of selected global MODIS products

Henegar (NOAA-NESDIS) presented on her and O'Neal's work on the use of near-real time MODIS products by NOAA. The original intent of the project was to mitigate risks associated with the upcoming NPP/VIIRS era, which would have similar processing objectives and volumes. After September 11, the interest in the near real time MODIS imagery stepped up, especially over SW Asia. Last year they got an earmark to upgrade the processing capacity at NOAA to be able to produce more products globally, rather

than just the CONUS, which was the original plan. (Currently there is a NOAA processor in Bldg. 32 that gets data from EDOS and does some near real time data processing over CONUS, and also is doing SW Asia for the Air Force Weather Agency (AFWA). There are plans to augment the capability of the present NOAA equipment at Building 32. The PDU has been relocated to its room, and should be installed by end of next week. SGI will install hardware after that. NOAA will be coming to help that set up. After that the software installation will begin. The new hardware will allow for AIRS/AMSU processing, and global production for Terra and Aqua MODIS of selected products, like L1B, SST, and Cloud and aerosol products.

They have been using Rapid Response data to feed AFWA to get them familiar with the file sizes and formats. They really like what they are getting. But their ultimate request is two-hour delivery of data, which will be a real challenge, given the single TDRSS contact per orbit.

Justice asked what progress had been made on resolving the gaps in EDOS data flow. Henegar said that they showed EDOS the statistics NOAA had collected on delivery gaps, showing that their timeliness was about 4-5 hours, and summarizing the gaps. She reported that EDOS was interested, but they wanted to analyze the data themselves.

There was discussion about ancillary data and what would be used, predicted versus old data and which would be better. Henegar said they would have to look into that. In the long term, they will use the high-speed dark fiber line planned for GSFC and Suitland, and will simply feed that data to Suitland and they will distribute. She mentioned that there was some interest in putting these products into the DAAC. Esaias said that there would likely be lots of potential commercial applications of these real time data products.

Murphy said that he thought it was fine to get them to people operationally, but it may confuse users if you try to make an archive of these products that go along side the true "scientific" products. Encouraging an effort to build up an archive of products that are not necessarily the same quality of the actual science products would be counterproductive. Esaias asked how the Rapid Response System reconciles its fire product with the true surface reflectance product. Justice said that they tell users it is not the same as the true surface reflectance product, and if they want that product, they should go to the DAAC.

2.3 Data Processing

Alcott reported that they have 20 minutes of holes for August and September, but all days are still 98% or better completion. The DAAC would be starting January 2001 on Monday, December 17. They expected to be caught up with the leading edge over the weekend of December 15 as well as finishing up SAFARI (10 days). Somewhere between the 31st of December and the 6th of January they will finish the Consistent (complete) year.

Masuoka reported that MODAPS had experienced down time for two days for a UPS issue. They were processing the first week of September currently, and mtvs2 should finish January and February around January 20, and the Consistent year will be finished.

Masuoka said that the Goddard postmaster has turned off the ability for MCST to send email to anyone on the pop servers. So he dealt with that, and solutions are being investigated. We will get a waiver until the end of the year for MCST and SDST.

2.4 Discussion of Recommendations from the MODIS Data Processing Review Team

Esaias reported that he would be briefing Jack Kaye, Chuck Trees, and Martha Maiden on the status of the Ocean Products. Also, Miami is waiting for a response from Salomonson about a code change to correct sun earth distance problem. Vermote reported that Land Team had already put in a correction for the sun earth distance problem, but that it should have a minor impact on the surface reflectance product.

Salomonson said that with respect to the panel's recommendation for a core set of reduced resolution products, the team should begin thinking about which those would be, and what the resolution will be. In Salomonson's view the recommendation is two-fold: to provide the user community with an interdisciplinary set of products that are easy to acquire and work with, and also to simplify processing so that at least the core set of products could be reprocessed rapidly to allow for product maturity and quality to develop more quickly.

Salomonson suggested that the operational staff begin thinking about the panel's second recommendation, which is minimize the complexity of DAAC-MODAPS interaction and coordination, in particular, to minimize all the human-intensive intervention. Masuoka said that he would be working with Mike Moore and Alcott about getting MODAPS direct access to the DAAC archive. Masuoka also thought that he had some suggestions for how to increase our X-rate to deal with the "requirements creep" the panel cautioned against.

With respect to Aqua, Masuoka said that they want to do a more extensive test than the last one. This time we will use half the processors so that we can demonstrate that we can hold 2x forward on the processing chain. We will need some other data to work on because we will run out of the simulated data that is provided by ESDIS.

With respect to the suggestion from the review panel that we need an overall, end-to-end data processing manager, he is already receiving suggestions. If the team has other suggestions, please send them along.

As far as the core set of products, Esaias felt that there needed to be more clarification about the panel's use of the terms *research product* and *core products.* And of course, there will be some discussion within discipline groups about recommended grid sizes. Salomonson said that it would be great if the science team could agree on the integrated

set of products, and then it would be good to get an external endorsement of the set. Esaias suggested that the team look at NCEP goals and their resolutions needs.

2.5 Final Discussion

Justice reported that they organized a small Direct Broadcast session for the science team meeting.

Salomonson thought that with respect to distribution issues, perhaps it would be good for the DAACs to use MODIS as a case study and do an external review similar to our data processing review.

Wolfe agreed to put together a workshop about long-term archive for all instruments. Justice thought that the DAAC user working groups should get together and perhaps be at the long-term archive meeting. Prior to the next SWGD meeting, the instrument teams should have a separate review to feed into that meeting.

3.0 Action Items

3.1 Reber to send Justice the mailing list that has members of the DAWG.
3.2 Justice to contact Bob Whacker
Status: Open.
3.3 Ramsay to forward Justice an email from him.
Status: Open
3.4 Discipline leads to meet to resolve the issue of beta-release code and science-quality code, and what we need to say about it.
Status: Open.
3.5 Technical team to discuss further the issue of predicted ephemeris data and how to improve it.
Status: Open.